

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A radio communication apparatus comprising:
a plurality of radio signal reception sections adapted to receive signals from a respective radio communication channels;
a plurality of reception signal processing sections adapted to process the received signals, respectively; and
an optical transmission section adapted to optically transmit the respective at least one received signal from the plurality of respective radio signal reception sections to the plurality of respective reception signal processing sections, wherein:
the optical transmission section comprises one sheet-shaped optical bus that can optically transmit respective at least one signal from the plurality of respective radio signal reception sections to the plurality of respective reception signal processing sections; ~~the sheet-shaped optical bus comprising:~~
a light guide passage;
reflection portions that optically reflect respective signals, which are incident thereon and are input from the plurality of respective radio signal reception sections, toward respective predetermined directions; and
a diffusion reflection plate that reflects the signals reflected by the reflection portions while diffusing the reflected signals, wherein the diffusion reflection plate is disposed on one end of the light guide passage to face the reflection portions.

2. (Currently Amended) The radio communication apparatus according to claim 1,

wherein each of the radio signal reception sections comprises a first signal conversion section adapted to convert the received signal into at least one optical signal;

wherein the optical transmission section comprises:

the one sheet-shaped optical bus adapted to connect the radio signal reception sections and the reception signal processing sections and to guide each of at least one optical signal from each of the radio signal reception sections to each of the reception signal processing sections;

at least one first optical wave guide adapted to guide each of the at least one optical signal from each of the radio signal reception sections to each of the one sheet-shaped optical bus, the at least one first optical wave guide disposed in an optical path between the radio signal reception sections and the sheet-shaped optical bus; and

at least one second optical wave guide adapted to guide each of at least one optical signal from the one sheet-shaped optical bus to each of the reception signal processing sections, the at least one second optical wave guide disposed in an optical path between the reception signal processing sections and the sheet-shaped optical bus,

wherein each of the reception signal processing sections comprises a second signal conversion section adapted to convert the at least one guided optical signal into an electric signal.

3. (Canceled)

4. (Currently Amended) The radio communication apparatus according to claim 2, wherein the sheet-shaped optical bus comprises an optical signal diffusion section adapted to diffuse the optical signal from each of the at least one first optical wave guide to guide to each of the at least one second optical wave guide.

5. (Currently Amended) The radio communication apparatus according to claim 2, wherein the at least one first optical wave guide reflects each of the at least one optical signal from each of the radio signal reception sections to guide each of the at least one optical signal to the sheet-shaped optical bus.

6. (Currently Amended) The radio communication apparatus according to claim 2, wherein each of the at least one second optical wave guide reflects each of the at least one optical signal guided through each of the one sheet-shaped optical bus to guide each of the at least one optical signal to each of the reception signal processing sections.

7. (Previously Presented) The radio communication apparatus according to claim 2, wherein each of the at least one first optical wave guide is an optical fiber adapted to guide each of the at least one optical signal from each of the radio signal reception sections.

8. (Currently Amended) The radio communication apparatus according to claim 2, wherein each of the at least one second optical wave guide is an optical fiber adapted to guide each of the at least one optical signal guided through each of the at least one sheet-shaped optical bus to each of the reception signal processing sections.

9. (Currently Amended) A radio communication apparatus comprising:
a plurality of transmission signal processing sections adapted to process signals to be transmitted, respectively;
a plurality of radio signal transmission ~~section~~sections adapted to transmit the processed signals to respective radio communication channels; and
an optical transmission section adapted to optically transmit the respective at least one processed signal from the plurality of respective transmission signal processing sections to the plurality of respective radio signal transmission sections, wherein:
the optical transmission section comprises one sheet-shaped optical bus that can optically transmit respective at least one signal from the plurality of respective

transmission signal processing sections to the plurality of respective radio signal transmission sections, the sheet-shaped optical bus comprising:

a light guide passage;
reflection portions that optically reflect respective signals, which are incident thereon and are input from the plurality of respective radio signal processing sections, toward respective predetermined directions; and
a diffusion reflection plate that reflects the signals reflected by the reflection portions while diffusing the reflected signals, wherein the diffusion reflection plate is disposed on one end of the light guide passage to face the reflection portions.

10. (Currently Amended) The radio communication apparatus according to claim 9,

wherein each of the transmission signal processing sections comprises a first signal conversion section adapted to convert the processed signals into at least one optical signal;

wherein the optical transmission section comprises:

the one sheet-shaped optical bus adapted to connect the transmission signal processing sections and the radio signal transmission sections to guide each of at least one optical signal from each of the plurality of transmission signal processing sections to each of the plurality of radio signal transmission sections;

at least one first optical wave guide adapted to guide each of the at least one optical signal from each of the plurality of transmission signal processing sections to each of the one sheet-shaped optical bus, the at least one first optical wave guide disposed in an optical path between the transmission signal processing sections and the sheet-shaped optical bus; and

at least one second optical wave guides adapted to guide each of at least one optical signal from each of the one sheet-shaped optical bus to each of the

radio signal transmission sections, the at least one second optical wave guide disposed in an optical path between the radio signal transmission sections and the sheet-shaped optical bus; and

wherein each of the radio signal transmission sections comprises a second signal conversion section adapted to convert the at least one optical signal into an electric signal.

11. (Canceled)

12. (Currently Amended) The radio communication apparatus according to claim 10, wherein the sheet-shaped optical bus comprises an optical signal diffusion section adapted to diffuse each of the at least one optical signal from each of the at least one first optical wave guide to guide each of the at least one optical signal to each of at the least one second optical wave guide.

13. (Currently Amended) The radio communication apparatus according to claim 10, wherein each of the at least one first optical wave guide reflects the at least one optical signal from each of the transmission signal processing sections to guide the at least one optical signal to the one sheet-shaped optical ~~buses~~bus.

14. (Currently Amended) The radio communication apparatus according to claim 10, wherein each of the at least one second optical wave guide reflects each of the at least one optical signal guided through the one sheet-shaped optical bus to guide each of the at least one optical signal to each of the radio signal transmission sections.

15. (Previously Presented) The radio communication apparatus according to claim 10, wherein each of at least one first optical wave guide is an optical fiber adapted to guide each of the at least one optical signals from each of the transmission signal processing sections.

16. (Currently Amended) The radio communication apparatus according to claim 10, wherein each of at least one second optical wave guide is an optical fiber adapted to guide each of the at least one optical signal guided through the one sheet-shaped optical bus to each of the radio signal transmission sections.

17. (Currently Amended) A radio communication apparatus comprising:
a plurality of radio signal reception sections adapted to receive signals from a respective radio communication channels;

a plurality of reception signal processing sections adapted to process the received signals, respectively;

a plurality of transmission signal processing sections adapted to process a signals to be transmitted, respectively;

a plurality of radio signal transmission sections adapted to transmit the processed signals to the respective radio communication channels; and

an optical transmission section adapted to optically transmit the respective at least one received signal from the plurality of respective radio signal reception sections to the plurality of respective reception signal processing sections and to optically transmit the respective at least one processed signal from the plurality of respective transmission signal processing sections to the plurality of respective radio signal transmission sections, wherein:

the optical transmission section comprises one sheet-shaped optical bus that can optically transmit respective at least one signal from the plurality of respective radio signal reception sections to the plurality of respective reception signal processing sections, and the one optical bus that can optically transmit respective at least one signal from the plurality of respective transmission signal processing sections to the plurality of respective radio signal transmission sections. sections, the sheet-shaped optical bus comprising:

a light guide passage;

reflection portions that optically reflect respective signals, which are incident thereon and are input from the plurality of respective radio signal reception and processing sections, toward respective predetermined directions; and

a diffusion reflection plate that reflects the signals reflected by the reflection portions while diffusing the reflected signals, wherein the diffusion reflection plate is disposed on one end of the light guide passage to face the reflection portions.

18. (Currently Amended) The radio communication apparatus according to claim 17,

wherein each of the radio signal reception sections comprises a first signal conversion section adapted to convert the received signals into at least one first optical signal;

wherein each of the transmission signal processing sections comprises a third signal conversion section adapted to convert the processed signal into at least one second optical signal;

wherein the optical transmission section comprises:

the one sheet-shaped optical bus adapted to connect the radio signal reception sections, the reception signal processing sections, the transmission signal processing sections, and the radio signal transmission sections to guide each of the at least one first optical signal from each of the radio signal reception sections to each of the reception signal processing sections and to guide each of the at least one second optical signals from each of the transmission signal processing sections to each of the radio signal transmission sections;

at least one first optical wave guide adapted to guide each of the at least one first optical signal from each of the radio signal reception sections to each of the one sheet-shaped optical bus;

at least third optical wave guide adapted to guide the at least one optical signal from each of the transmission signal processing sections to the one sheet-shaped optical bus;

at least one second optical wave guide adapted to guide the at least one optical signal from the one sheet-shaped optical bus to each of the reception signal processing sections; and

at least one fourth optical wave guide each for guiding the at least one optical signal from the one sheet-shaped optical bus to each of the radio signal transmission sections,

wherein each of the reception signal processing sections comprises a second signal conversion section adapted to convert the at least one first optical signals into a first electric signal; and

wherein each of the radio signal transmission sections comprises a fourth signal conversion section adapted to convert the at least one second optical signal into a second electric signal.

19. (Canceled)

20. (Currently Amended) The radio communication apparatus according to claim 18, wherein the sheet-shaped optical bus comprises an optical signal diffusion section adapted to diffuse each of the at least one first optical signal from each of the at least one first optical wave guide and each of the at least one second optical signal from each of the at least one third optical wave guide to guide each of the at least one first optical signal to each of the at least one second optical wave guide and each of the at least one second optical signal to each of the at least one fourth optical wave guide.

21. (Currently Amended) The radio communication apparatus according to claim 18,

wherein the reception signal processing sections and the transmission signal processing sections are formed integrally; and

the at least one first optical wave guide and the at least one third optical wave guide are formed integrally to guide each of the at least one first optical signal guided through the one sheet-shaped optical bus to the reception signal processing sections and to guide each of the at least second optical signal from the transmission signal processing sections to the one sheet-shaped optical bus.

22. (Currently Amended) The radio communication apparatus according to claim 18 wherein:

the radio signal reception sections and the radio signal transmission sections are formed integrally; and

the at least one second optical wave guide and the at least one fourth optical wave guide are formed integrally to guide each of the at least one first optical signal from each of the radio signal reception sections to the one sheet-shaped optical ~~buses~~ bus and to guide each of the at least one second optical signal guided through the one sheet-shaped optical bus to the radio signal transmission sections.

23. (Canceled)

24. (Currently Amended) The radio communication apparatus according to claim 1, wherein the sheet-shaped optical bus comprises stepwise portions that input and/or output an optical signal.

25. (Currently Amended) The radio communication apparatus according to claim 9, wherein the sheet-shaped optical bus comprises stepwise portions that input and/or output an optical signal.

26. (Currently Amended) The radio communication apparatus according to claim 17, wherein the sheet-shaped optical bus comprises stepwise portions that input and/or output an optical signal.

27. (Canceled)